

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-17 (Canceled)

Claim 18 (Original) A method of manufacturing a magnetoresistance effect device, comprising:

forming a first ferromagnetic body, a nonmagnetic dielectric layer on the first ferromagnetic body, and a second ferromagnetic body on the nonmagnetic dielectric layer;

etching part of an external region of a predetermined ferromagnetic tunnel junction region using a first linear mask pattern which is traversing the predetermined ferromagnetic tunnel junction region; ~~and~~

etching another part of the external region of the predetermined ferromagnetic tunnel junction region using a second linear mask pattern which is traversing the predetermined ferromagnetic tunnel junction region and intersecting with the first linear mask pattern; and

forming a pair of projections extending from the first linear mask pattern using an electron beam, the pair of projections being positioned diagonal to each other.

Claim 19 (Original) The method according to claim 18, wherein the first and second linear mask patterns are substantially orthogonal to each other.

Claims 20-25 (Canceled)

Claim 26 (Previously Presented) The method of claim 18, further comprising a step of providing an easy magnetization axis to one of the first and second ferromagnetic bodies.

Claim 27 (Previously Presented) The method of claim 18, wherein one of the first and second ferromagnetic bodies comprises a laminate film including a pair of ferromagnetic layers and a nonmagnetic layer formed between the pair of ferromagnetic layers, the pair of ferromagnetic layers being magnetically coupled with each other.

Claim 28 (Previously Presented) The method of claim 18, further comprising a second nonmagnetic dielectric layer formed on the second ferromagnetic body and a third ferromagnetic body formed on the second nonmagnetic dielectric layer.

Claim 29 (Previously Presented) The method of claim 18, wherein one of the first and second ferromagnetic bodies comprises a magnetization free layer in which a magnetization is free to rotate in an applied magnetic field.

Claim 30 (Previously Presented) The method of claim 29, wherein the other of the first and the second ferromagnetic bodies comprises a magnetization pinned layer in which a magnetization is fixed in the applied magnetic field.

Claim 31 (New) A method of manufacturing a magnetoresistance effect device, comprising:

forming a first ferromagnetic body, a nonmagnetic dielectric layer on the first ferromagnetic body, and a second ferromagnetic body on the nonmagnetic dielectric layer; etching part of an external region of a predetermined ferromagnetic tunnel junction region using a first linear mask pattern which is traversing the predetermined ferromagnetic tunnel junction region; and

etching another part of the external region of the predetermined ferromagnetic tunnel junction region using a second linear mask pattern which is traversing the predetermined ferromagnetic tunnel junction region and intersecting with the first linear mask pattern, wherein

the first and second linear mask patterns have an overlapping rectangle region,  
the first linear mask pattern has first and second side surfaces substantially parallel to each other and first and second semicircular patterns,  
the first semicircular pattern is formed on the first side surface,  
the second semicircular pattern is formed on the second side surface, and  
the first and second semicircular patterns are aligned at diagonal corners of the overlapping rectangle region.

Claim 32 (New) The method according to claim 31, wherein the first and second linear mask patterns are substantially orthogonal to each other.

Claim 33 (New) The method of claim 31, further comprising a step of providing an easy magnetization axis to one of the first and second ferromagnetic bodies.

Claim 34 (New) The method of claim 31, wherein one of the first and second ferromagnetic bodies comprises a laminate film including a pair of ferromagnetic layers and a nonmagnetic layer formed between the pair of ferromagnetic layers, the pair of ferromagnetic layers being magnetically coupled with each other.

Claim 35 (New) The method of claim 31, further comprising a second nonmagnetic dielectric layer formed on the second ferromagnetic body and a third ferromagnetic body formed on the second nonmagnetic dielectric layer.

Claim 36 (New) The method of claim 31, wherein the first and second semicircular patterns are formed by spot EB drawing.

Claim 37 (New) The method of claim 31, wherein an overlapping rectangle region formed by the first linear mask pattern with the first and second semicircular patterns and the second linear mask pattern is substantially rotationally symmetrical with a center of the overlapping rectangle region as a pivot.

Claim 38 (New) The method of claim 37, further comprising a step of providing an easy magnetization axis to one of the first and second ferromagnetic bodies and the easy magnetization axis is not substantially symmetrical with longer axis of the overlapping rectangle region.

Claim 39 (New) The method of claim 31, wherein one of the first and second ferromagnetic bodies comprises a magnetization free layer in which a magnetization is free to rotate in an applied magnetic field.

Claim 40 (New) The method of claim 39, wherein the other of the first and the second ferromagnetic bodies comprises a magnetization pinned layer in which a magnetization is fixed in the applied magnetic field.